

WINTERING LARVAE.

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PROBABLY every one who has attempted to carry hibernating lepidopterous larvae through the winter has, like the writer, had the baffling experience of complete failure as a general rule, with perhaps an occasional hardy survivor or two as a rare exception.

One successful experience, however, brings much encouragement, and as I succeeded in wintering a brood of *Haploa* larvae and bringing forty of them through alive and well this spring, an account of the method followed may be useful to others.

The larvae were fed indoors until the frost killed their food plants. This was not until November, as the favorite food locally of this genus, *Cynoglossum officinale*, is quite hardy and survives the early frosts. The breeding cage in which the larvae were reared is five inches wide by twelve long, and eight inches high. The sides and ends are of glass set in a wooden frame. The bottom, which is open, rests on a shallow wooden tray containing a little earth and the top is covered by a removable lid consisting of a wooden frame covered with gauze. When the food supply failed, the cage and larvae were carried into a rather dimly lighted room where the temperature was about 50° Fahr. After a few days the larvae ceased eating entirely and appeared lethargic.

The cage was then filled quite full of dead leaves nearly dry, and the whole wrapped in several thicknesses of paper to exclude the light. During the winter the cage was kept in a cold attic, and later, as spring approached, in a cool, dry cellar. No careful record of temperature was kept but it probably averaged about 40°. From time to time the cage was opened and the dead leaves lightly sprinkled with water. This was doubtless of importance, as previous experiments indicated that too much and too little moisture are equally destructive to larvae hibernating in confinement. Too much moisture promotes fungus growths, while too little causes the larvae to dry up. The exclusion of light may also be a factor of consequence. In the latter part of March some *Cynoglossum* plants which had wintered in a tub in the cellar began to put out new leaves, and about the 10th of April the breeding cage was brought into a warm, light room and its wrapping removed. Only a few larvae were in sight, but the stimulus of light and warmth soon brought many others to the top of the cage, and in the course of twenty-four hours some forty appeared and were transferred to new, clean quarters, with fresh

food, and all were soon actively eating. At this writing all have passed the last moult and some are preparing to pupate.

One swallow does not make a summer, and it is perhaps not safe to conclude that this method of treatment would always bring success; but after experimenting for four winters with many larvae of this genus, indoors and out, under varying conditions, with practically complete failure, it is gratifying to be able to record this one success.

PROCEEDINGS OF THE CLUB.

A special meeting was held in the Council room on the evening of March 28, 1904. President Emerton in the chair; ten members present. The minutes of the last meeting were read and accepted. Mr. W. L. W. Field spoke briefly on *Methods of Labeling* specimens of insects, dwelling especially upon the importance of topographic data such as are kept by botanists. Mr. Field also showed two specimens of *Papilio turnus*, both females of the yellow type, but showing great difference in the extent of the black markings, and a specimen of *Chrysophanus thoe* taken in Alstead, N. H. Mr. Newcomb showed a "white-banded *ursula*" (see the February number of *Psyche*, page 4) from Long Island. Mr. Morse then presented *A Faunal and Floral Tabulation Scheme*, illustrated by many maps and diagrams. Informal discussion followed.

The 236th meeting was held in the Council room on the evening of April 18, 1904. President Emerton in the chair; eleven persons present.

The record of the last meeting was read and accepted. Mr. Wm. P. Henderson of Boston was unanimously elected to active membership. The Chair announced the appointment of Messrs. Buxton, Denton, and Sampson to serve as Exhibition Committee.

It being impossible for Dr. Hans Gadow to be present and address the Club as announced, the members present then performed for their own benefit some of the simple experiments on the pigments of butterflies' wings for which Dr. Gadow had supplied directions. Mr. Emerton exhibited the cocoon of a hymenopterous parasite reared from the spider *Steatota borealis*, and some *Staphylinidae* found in a colony of *Termes*. Mr. Blackburn showed a number of early moths captured at electric lights. Mr. Field presented brief abstracts of some recent entomological literature.

It was voted to hold a special meeting on the evening of May 3. Adjournment was reached at 9.40.

W. L. W. FIELD,
Secretary.